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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,108	02/08/2000	Kevin L. Fox	GCSD-1054 (51045)	2137

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EXAMINER

ABRISHAMKAR, KAVEH

ART UNIT PAPER NUMBER

2131

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/500,108

Applicant(s)

FOX ET AL.

Examiner

Kaveh Abrishamkar

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment filed on May 6, 2005. Claims 1-36 were originally received for consideration. Per the received amendment, claims 1,7,13,19,25, and 31 have been amended. No claims have been cancelled or added. Claims 1-36 are currently being considered.

### ***Response to Arguments***

2. Applicant's arguments filed May 6, 2005 have been fully considered but they are not persuasive for the following reasons:

Regarding claim 1, the applicant argues that the CPA, Ronnen (U.S. Patent No. 5,699,403), does not teach that the network vulnerability/risk analysis programs that are used for analyzing the network are "separate and non-integrated." The examiner interprets separate and non-integrated programs, as programs that independently analyze the risk of the network. The CPA discloses "risk computation modules" which include "various submodules that retrieve the appropriate probability data." (column 7 lines 19-22). These modules examine different vulnerabilities in the network, and provide a different and independent risk level which are computed independently by

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each module. Using this interpretation of "separate and non-integrated," it is believed that the CPA does teach that the network vulnerability/risk analysis programs that are used for analyzing the network are "separate and non-integrated."

Therefore, the rejection for claims 1-36 is maintained as given below for the amended claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4,6,7,8,10,12,13,14,16,18,19,20,22,24,25,29,31 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Ronnen (U.S. Patent 5,699,403).

Regarding claim 1, Ronnen discloses:

A method for assessing the security posture of a network comprising the steps of:

creating a system object model database representing a network, wherein the system object model database supports the information data requirements of separate, non-integrated network vulnerability analysis programs (column 3 line 30 – column 4 line 25);

exporting the system object model database of the network to the separate, non-integrated network vulnerability/risk analysis programs (column 3 line 30 – column 4 line 25, column 7 lines 8 – 40);

analyzing the network with each network vulnerability analysis program to produce data results from each program (column 4 lines 1 – 61, column 6 lines 21 – 56); and

correlating the data results of the network vulnerability analysis programs to determine the security posture of the network (column 6 lines 57 – 65).

Claim 2 is rejected as applied above in rejecting claim 1. Furthermore, Ronnen discloses:

A method according to claim 1, and further comprising the step of importing the system object model database to the network vulnerability analysis programs via an integrated application programming interface (column 3 line 30 – column 4 line 25, column 7 lines 8 – 40).

Claim 4 is rejected as applied above in rejecting claim 1. Furthermore, Ronnen discloses:

A method according to claim 1, and further comprising the step of establishing a class hierarchy to define components of the network vulnerability analysis programs that share common and programming traits (column 6 lines 57 – 65).

Claim 6 is rejected as applied above in rejecting claim 1. Furthermore, Ronnen discloses:

A method according to claim 1, and further comprising the step of running the network vulnerability assessment/risk analysis programs to obtain data results pertaining to network system details, network topologies, node level vulnerabilities and network level vulnerabilities (column 4 lines 1 – 61, column 6 lines 21 – 56).

5. Claims 7,8,10, and 12 are method claims analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

6. Claims 13,14,16,18,19,20,22, and 24 are computer-readable medium claims analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

7. Claims 25,29,31, and 35 are system claims analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3,9,15,21,26,27,28, 32, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronnen (U.S. Patent 5,699,403) in view of Mayo et al. (U.S. 5,751,965).

Claim 3 is rejected as applied above in rejecting claim 1. Furthermore, Ronnen discloses a method of assessing the security posture of a network comprising the steps of creating a system object model database, exporting this database to vulnerability analysis programs, and correlating the data results from these network vulnerability analysis programs to determine the security posture of a network. However, Ronnen does not explicitly describe modeling the network **as a map** on a graphical user interface. Mayo teaches the method of modeling the network as a map on a graphical user interface (column 2 lines 58-63, column 5 lines 49-53, column 6 lines 4-21).

Ronnen delineates a method of gathering, storing, and correlating network vulnerability information, and displaying this information to users via a graphical user interface (column 6 lines 48 – 65). However, Ronnen does not divulge the method of displaying these results as a **map**. Mayo states the importance of the presentation of network information on a graphical user interface (column 1 lines 64-67, column 2 lines 1-9), and delineates a method of constructing a network map showing displaying different network attributes. Displaying network link, and nodes in a map format is well-known in the art, and a network map is commonly used to display network alarms, and failures, because it displays the relationship between nodes in a clear manner. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was

made to display the network vulnerability assessment information gathered by the system of Ronnen using the network display method of Mayo to be able to display the network vulnerability information in a clear and organized manner so that one could better use the network vulnerability information to safeguard the network elements.

4. Claims 5,11,17,23,30 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronnen (U.S. Patent 5,699,403) in view of Smith et al. (U.S. 5,787,235).

Regarding claim 5, Ronnen discloses a method for assessing the security posture of a network comprising the step of correlating the data results from a vulnerability assessment programs. However, Ronnen does not explicitly describe how this data is correlated. Smith delineates a fuzzy-logic based evidence fusion tool that can be applied to network configuration analysis, modeling and assessment (column 6 lines 26-30). Smith states the tool disclosed applies fuzzy logic to telecommunication network configuration analysis, modeling and assessment. This assessment disclosed can be viewed as a network vulnerability assessment correlation. Therefore it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to use Smith's method of applying fuzzy logic to network data to correlate the vulnerability assessment information provided by Ronnen's system. The use of fuzzy logic processing allows correlation of the results from the programs into a cohesive vulnerability assessment to obtain an overall network vulnerability posture.



5. Claim 9 is a method claim analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

6. Claims 15, and 21 are computer-readable medium claims analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

7. Claims 26,27,28,32,33, and 34 are system claims analogous to the method claims rejected above, and are therefore rejected using the same rationale given above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaveh Abrishamkar whose telephone number is 571-272-3786. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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07/22/05

  
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